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March 7, 2005

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Ms. Elizabeth O'Donnell
Executive Director
Public Service Commission
211 Sower Boulevard
Frankfort, KY 40602

Re: PSC Case No. 2004-00423

Dear Ms. O'Donnell:

Please find enclosed for filing with the Commission in the above-referenced case, an original and ten copies of the Petition for Confidential Treatment of Information regarding the responses of East Kentucky Power Cooperative, Inc., ("EKPC") to the information requests contained in the Commission Staff's Third Data Request in this case dated February 25, 2005. Included with said Petition is a confidential set of all pages in the responses which contain confidential information, along with 10 redacted copies of such responses.

Very truly yours,

Charles A. Lile
Senior Corporate Counsel

Enclosures

Cc: Service List.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

**THE APPLICATION OF EAST KENTUCKY POWER)
COOPERATIVE, INC. FOR A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY, AND A)
SITE COMPATIBILITY CERTIFICATE, FOR THE) CASE NO. 2004-
CONSTRUCTION OF A 278 MW (NOMINAL)) 00423
CIRCULATING FLUIDIZED BED COAL FIRED UNIT)
IN MASON COUNTY, KENTUCKY)**

**PETITION FOR CONFIDENTIAL
TREATMENT OF INFORMATION**

Comes now the Petitioner, East Kentucky Power Cooperative, Inc. (“EKPC”) and, pursuant to 807 KAR 5:001 Section 7 and KRS §61.870, requests confidential treatment of the designated information in the responses and attached spreadsheets, schedules and support information, which are hereby filed as directed by the Third Staff Data Request of the Kentucky Public Service Commission (the “Commission”) in this case dated February 25, 2005. As grounds for this petition, EKPC states as follows:

1. 807 KAR 5:001 Section 7 authorizes confidential treatment of information submitted to the Commission based on grounds provided in KRS §61.870 et seq. EKPC asserts that the information identified in the abovementioned responses, spreadsheets, schedules and support information filed in this case are records generally recognized as proprietary and confidential which, if made public, would permit an unfair commercial advantage to competitors of EKPC, as more fully explained hereinbelow. As such, this information should be granted confidential treatment pursuant to 801 KAR 5:001 Section 7 and KRS §61.878 (1)(c)(1).

2. The designated information consists of detailed calculations and other information concerning the evaluation of the most competitive proposals received in response to EKPC's Request for Proposals ("RFP") 2004-01. Disclosure of this information could provide useful pricing information to other utilities, power marketers and other entities which compete with EKPC in the bulk power market, which could put EKPC at an unfair disadvantage in efforts to market surplus power. Furthermore, the disclosure of details of the most competitive proposals to utilities, power marketers and project developers which would be potential bidders in future EKPC RFPs could lead to manipulation of those future proposals, resulting in higher costs for future capacity and related competitive disadvantages for EKPC. The Commission, on February 18, 2005 granted confidentiality protection to the RFP proposals and associated information which were filed in this case on February 14, 2005 and should grant the same protection to this evaluation information.

3. EKPC has protected the confidentiality of the subject evaluation information, which contains information known only by RFP bidder EnviroPower L.L.C., EKPC and its consultant, EnerVision, Inc., and has restricted access to this information to only EnerVision representatives and EKPC employees with a need to use it for the purposes of this case. One unredacted copy of the confidential pages of the subject responses, along with 10 redacted copies of the responses, are included with the filing of this Petition, pursuant to 807 KAR 5:001 Section 7.

4. The subject information is entitled to confidential treatment pursuant to 807 KAR 5:001 Section 7 and KRS §61.878(1)(c)(1) as information generally recognized as confidential and proprietary which would permit an unfair commercial advantage to competitors of EKPC in the surplus power market if disclosed, as discussed hereinabove. The information is also entitled to confidential treatment

pursuant to KRS §61.878(1)(c)2(c) as confidential information maintained in conjunction with the regulation of a commercial enterprise and disclosed to an agency on a confidential basis.

WHEREFORE, EKPC respectfully requests the Commission to grant confidential treatment to the subject information and deny public disclosure of said information.

Respectfully submitted,


DALE W. HENLEY


CHARLES A. LILE
P. O. BOX 707
WINCHESTER, KY 40392-0707
(859) 744-4812

CERTIFICATE OF SERVICE

This is to certify that an original and ten copies of this Petition for Confidential Treatment of Information in the above-styled case were delivered to the Elizabeth O'Donnell, Executive Director, Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40602, and copies were mailed to parties on the service list in this case, this 7th day of March, 2005.



CHARLES A. LILE

(423Spur4-DR3-confidtrat)

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2004-00423

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED

FEBRUARY 25, 2005

REQUEST NO. 1 (a)

RESPONDING PERSON: Lynne Travis

Request 1 (a):

Refer to pages 5-7 of the Prepared Direct Testimony of Lynne S. Travis regarding the evaluation of either a self-build proposal or a purchase power option.

a. Provide the calculations, along with any explanation that is needed, which shows, starting with the cost of East Kentucky Power's self-build Spurlock 4 proposal, all the steps taken to derive the average cost per MWh for that proposal as shown on page 3 of 4 of the response to Item 1 of the Commission Staff's December 23 2004 supplemental data request.

Response 1 (a):

The evaluation of the EKPC Spurlock 4 proposal was based on information provided in the bid that EKPC submitted in response to the RFP. EKPC provided EnerVision with a copy of the EKPC Self Build Proposal - Bid #15 at the same time they provided the other proposals. These proposals were submitted in this case in response to the Commission staff data requests dated February 3, 2005. Before the economic analysis began, EKPC and EnerVision discussed assumptions that should be used in the analysis. The following modeling assumptions were agreed upon during initial conference calls between EKPC and EnerVision and did not change over the course of the evaluation:

- Interest Rate: ██████%
- Financing Term (build units): 32 years
- Depreciation Methodology: straight line
- Depreciation Period (build units): 32 years
- Escalation Rate: 3% (unless otherwise specified in the proposal)
- Discount Rates: two scenarios of 3% and 6% (The 3% discount rate was used to simulate inflation while a 6% discount rate represents EKPC cost of funds.)
- Capacity Factor: 80%

Specific costs included in the analysis were provided as a part of the EKPC Spurlock 4 Proposal, as supporting documentation, and as updates to the original pricing. EnerVision reviewed the pricing details and included the following quoted costs into the analysis:

- Installed Costs: \$ ██████ in 2008\$ - EKPC provided this cost estimate on 9/3/04 via phone conversation. The original quote in the proposal was for \$ ██████. The change was primarily due to increased steel prices.
- Fixed O&M: \$ ██████/KW/Yr in 2004\$ escalated at 3%
- Substation and Transmission: \$ ██████ in 2004\$ provided through supporting documentation from EKPC
- Transmission O&M: 5% of the Substation and Transmission investment
- Variable O&M: \$ ██████/MWh in 2004\$ escalated at 3%
- Fuel Price: Provided in the EKPC Spurlock 4 proposal and subsequent data requests.
- Heat Rate: 10.4205 MMBTU/MWh– This is an average of the low load heat rate of 11.291 MMBTU/MWh and the full load heat rate of 9.550 MMBTU/MWh

A spreadsheet was developed to evaluate the EKPC Spurlock 4 proposal and is included as Attachment Q1a.1. The supporting calculations for each line item of this spreadsheet are included as Attachment Q1a.2. The spreadsheet analysis included modeling both the total capacity costs (fixed costs) and total energy costs (variable costs) associated with the Spurlock 4 proposal.

The capacity costs included: the financing of the capital costs – interest costs and depreciation, fixed operations and maintenance costs (O&M), and substation and transmission costs as outlined in the assumptions above. The energy costs included: variable operations and maintenance costs (O&M) and fuel costs. The fuel costs were provided as a part of the EKPC Spurlock 4 proposal and are included in the response to Request 5 of the Commission's data requests in this case dated December 7, 2004.

The individual costs components for the Spurlock 4 proposal were totaled on an annual basis and each year of costs were present valued to 2004\$. The present value cost for each of the 32 years of the study period was summed to obtain the total cost of each proposal in 2004\$. This total cost was then divided by the total energy (MWh) produced over the 32 years to obtain the average \$/MWh cost for the proposal.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2004-00423

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED

FEBRUARY 25, 2005

REQUEST NO. 1 (a)

RESPONDING PERSON: David Eames

Supplemental Response 1 (a):

Ms. Travis of EnerVison has responded to Requests 1 (a) and 1 (b) by providing the requested calculations used to determine the average cost per MWh for the Spurlock 4 and EnviroPower proposals. Ms. Travis has also provided an explanation of that process, which addresses topics raised in Mr. Stephen Soble's letter to the Commission on behalf of EnviroPower dated February 24, 2005. Since many of the topics raised by Mr. Soble were not elements of EnerVison's evaluation of the projects, EKPC wishes to provide additional information in response to some of EnviroPower's concerns.

EnviroPower has questioned the source of capital cost estimates that were used for the Spurlock 4 project. The cost estimates for the Spurlock 4 project were developed for EKPC by Stanley Consultants, which was the consulting engineer on the nearly identical Gilbert Unit at Spurlock Station. EKPC provided testimony in Exhibit 11 (pages 2 & 3) of its Certificate Application dated October 28, 2004 concerning Stanley's work and the status of major contracts for Spurlock 4. As Ms. Travis references, the Spurlock 4 cost estimate increased during the evaluation period, largely due to recent increases in steel prices. EKPC believes that such increases in materials costs will impact any project cost estimates which have not been recently updated. Even though EnviroPower has reaffirmed its bid pricing to EKPC, it is not clear to EKPC whether EnviroPower has reaffirmed their project costs with contractors or how firm their project costs are. In addition, at a September 9, 2004 meeting with EKPC, EnviroPower indicated, in response to a question about performance guarantees, that it would provide a performance guarantee, but that it would cost EKPC to get it. EnviroPower indicated that it would

also ask EKPC to provide a performance guarantee. No costs were added to EnviroPower's proposal in the evaluation process for the costs of providing performance guarantees.

EnviroPower has requested information about fuel cost estimates used in the evaluation of the Spurlock 4 proposal. The fuel cost for Spurlock 4 used in the analysis is based on a fuel study entitled "Updated Fuel, Emission Allowance and Lime/Limestone Projections 2004-2025", dated May 2004. The study was performed by Energy Ventures Analysis, Inc. of Arlington, VA. A discussion of the fuel cost projections was provided to the Commission as Exhibit 12 to EKPC's Certificate Application dated October 28, 2004. The delivered fuel costs for CFB units at Spurlock Station were provided to the Commission on December 15, 2004 (Request 5) in response to its December 7, 2004 data request.

EKPC did not direct EnerVision to add a cost for permit risk to any proposals, including any risk associated with EKPC's ability to obtain an air permit, or EnviroPower's ability to maintain their air permit. Subsequent to the selection of the Spurlock 4 project, EKPC did receive a letter from the Division for Air Quality ("DAQ") regarding the construction permit application for Spurlock 4. The letter has been reviewed and responses are being prepared. Revised modeling is being performed as directed by the DAQ, to incorporate suggested modifications to the modeling procedures. No air quality issues are apparent in this modeling effort. BACT issues raised by the DAQ are being addressed and additional information will be provided to demonstrate that the proper controls and emission levels were selected for the unit. All remaining issues identified in the letter will also be addressed. No issues were found that would prevent the permit issuance. EKPC has no reason to believe that any additional emission controls will be required, or that any comprehensive compliance review will be needed, for Spurlock 4.

EnviroPower has questioned the allocation of risk in the evaluation process based on the status of its Siting Certificate for its proposed project, compared to Spurlock 4. The existence of a Siting Certificate for the EnviroPower project was acknowledged in the evaluation, in that some additional risk could have been assigned to the proposal if such a certificate had not been obtained for the merchant plant proposed by EnviroPower. EKPC's Spurlock 4 project does not require a Siting Certificate, since it is not a merchant generating facility, but does require Certificates of Public Convenience and Necessity and Site Compatibility that are the subject of this case. From EKPC's perspective, the Certificate process in this case for the Spurlock 4 project is not fundamentally different from the process that would be required for EKPC to obtain approval for a power purchase agreement, such as EnviroPower proposed. Since PSC approval of any power supply alternative chosen by EKPC was the relevant risk, the fact that EnviroPower had a Siting Certificate for its project did not provide any relative advantage over the Spurlock 4 project.

EnviroPower has objected to the fact that the cost of performing an EIS was added to the cost of its proposal. EKPC is not required to have an EIS prepared for Spurlock Station or Smith Station projects, because both of those are already impacted sites with generating facilities already located on them. EKPC did provide Environmental Reports with the Certificate Applications for generation at the Spurlock Station and Smith Station sites. EKPC estimated the cost to perform an EIS at \$2 million, based on EKPC's experience for a number of years in preparing Environmental Reports, including complete Environmental Impact Statements. These reports vary in depth and level of data gathering necessary prior to report generation. The value of \$2 million is an estimate based upon our experience of the level of effort necessary to prepare a report that will meet the requirements of the Rural Utilities Service (7CFRPart 1794). The background reports necessary include, but are not limited to, biological surveys of both plant and animal life, archeology information, background water data, wetlands delineations, waste permitting information, land use, econometric studies, traffic studies, and noise surveys. In many of these studies at least one year's data is necessary to provide a factual report. This cost was added to any proposal for which RUS regulations would require an EIS. The cost of an EIS was added to EnviroPower's proposal on that basis, and was spread over 32 years, the economic life of a baseload plant. EnviroPower's representatives stated they did not believe an EIS was necessary, but provided no support for this assertion. They also stated, during conference call discussions, that they had environmental data for the project available and, if an EIS were required, they would "take care of it". However, EnviroPower never explained exactly what was meant by "taking care of it," and EKPC did not receive any written commitment from EnviroPower to absorb any costs of an EIS.

Finally, EnviroPower raised questions about the escalation rates used in the evaluation. EKPC discussed escalation rates with EnerVision early in the evaluation process and decided that 3 percent annual escalation was reasonable for a long-term escalation rate based on the Consumer Price Index at the time. Since the primary components of EnviroPower's proposal were fixed demand and energy charges, escalation rates would have little impact on their evaluated price. The primary components of EKPC's proposal subject to escalation were fixed and variable O&M costs. Since these costs are relatively small, a significant change from 3 percent would be required to have much impact on EKPC's evaluated price. Therefore, no escalation rate sensitivities were performed. However, since questions were raised, EKPC checked an alternate source for escalation rates. According to Global Insight's Power Planner (First Quarter 2004) projected escalation rates for Steam Production Plant (Total Operation and Maintenance) from 2008 through 2029 averaged about 2.3 percent. If EKPC changed the escalation rate to 2.3 percent, the evaluated price of Spurlock 4 would be lower.

Q1a.1		2016	2017	2018	2019	2020	2021	2022	2023
Response to Kentucky PSC Qu									
#15 - EKPC Spurlock Unit 4									
Amount									
Term									
Total Installed Cost (less substation and transmission)									
Fuel Cost									
Fixed O & M									
Variable O & M									
Heat Rate									
Capacity Factor									
Interest Rate									
Discount Rate									
Escalation Rate									
80% Capacity Factor									
Line #	Capacity Costs	9	10	11	12	13	14	15	16
1	Interest								
2	Depreciation								
3	Fixed O & M (\$/kw yr)								
4	Fixed O & M								
5	Substation and Transmission								
6	Transmission O&M								
7	Total Fixed Cost								
8	Total Fixed Cost (\$/KW/Month)								
	Energy Costs								
9	Energy (MWh)								
10	Variable O & M (\$/MWh)								
11	Variable O & M								
12	Fuel Price								
13	Fuel Cost								
14	Total Variable Cost								
15	Total Variable Cost (\$/MWh)								
16	Total Cost								
17	Total Cost (\$) NPV								
18	NPV \$/MWh								
19	Cumulative Total Cost (\$) NPV								
20	Cumulative MWh								
21	Cumulative \$/MWh								

Q1a.1		26	27	28	29	30	31	32	Total
Response to Kentucky PSC Qu		2033	2034	2035	2036	2037	2038	2039	Total
#15 - EKPC Spurlock Unit 4									
Amount									
Term									
Total Installed Cost (less substation and transmission)									
Fuel Cost									
Fixed O & M									
Variable O & M									
Heat Rate									
Capacity Factor									
Interest Rate									
Discount Rate									
Escalation Rate									
80% Capacity Factor									
Line #	Capacity Costs	26	27	28	29	30	31	32	Total
1	Interest								
2	Depreciation								
3	Fixed O & M (\$/kw yr)								
4	Fixed O & M								
5	Substation and Transmission								
6	Transmission O&M								
7	Total Fixed Cost								
8	Total Fixed Cost (\$/KW/Month)								
	Energy Costs								
9	Energy (MWh)								
10	Variable O & M (\$/MWh)								
11	Variable O & M								
12	Fuel Price								
13	Fuel Cost								
14	Total Variable Cost								
15	Total Variable Cost (\$/MWh)								
16	Total Cost								
17	Total Cost (\$) NPV								
18	NPV \$/MWh								
19	Cumulative Total Cost (\$) NPV								
20	Cumulative MWh								
21	Cumulative \$/MWh								

Q1a.2

**Supporting Calculations for Spurlock 4 Evaluation
In Response to Kentucky PSC Question 1a from 2_25_05 Request**

(Note: Item #'s correspond to Line Items in spreadsheet Q1a.1: Response to PSC Question 1a.1 2_25_05)

1. Loan Interest Calculation

$$I_n = B - C_n$$

$$I_1 = \text{[REDACTED]}$$

where:

B = periodic total payment

C = principal portion

I = interest payment

n = period under consideration (period 1 is 2008)

Periodic Total Payment

$$B = \frac{(i \times A)}{1 - (1 + i)^{-N}} = \frac{\text{[REDACTED]}}{1 - (1 + \text{[REDACTED]})^{-32}} = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} = \text{[REDACTED]}$$

where:

A = amount of loan

N = total number of periods in the loan

i = interest rate

Principal Portion

$$C_n = B \times (1 + i)^{-(1+N-n)}$$

$$C_1 = \text{[REDACTED]} \times (1 + \text{[REDACTED]})^{-(1+32-1)} = \text{[REDACTED]}$$

2. Depreciation Calculation

$$D = \frac{A}{N} = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} = \text{[REDACTED]}$$

3. Fixed Operations and Maintenance Cost Escalation

$$FOM_n = \text{[redacted]} \times (1 + e)^{(Y-2004)}$$

$$FOM_1 = \text{[redacted]} \times (1 + \text{[redacted]})^{(2008-2004)} \approx \text{[redacted]}$$

where:

FOM = cost of fixed operations and maintenance (Dollars per kilowatt per year)

e = escalation rate

Y = year under consideration

[redacted] = fixed operations and maintenance cost in year 2004 per EKPC proposal
(Dollars per kilowatt per year)

4. Fixed Operations and Maintenance per Year

$$FY_n = MW \times 1000 \times FOM_n = \text{[redacted]}$$

where:

FY = fixed operations and maintenance per year

1000 = factor to convert capacity amount into kilowatts

5. Substation and Transmission Interest Calculation

$$ST_n = TB - TC_n = \text{[redacted]}$$

where:

ST = substation and transmission interest payment

TB = substation and transmission loan payment

TC = substation and transmission principal portion

Substation and Transmission Total Loan Payment

$$TB = \frac{(i \times TA)}{1 - (1 + i)^{-N}} = \frac{\text{[redacted]}}{1 - (1 + \text{[redacted]})^{-32}} = \frac{\text{[redacted]}}{\text{[redacted]}} \approx \text{[redacted]}$$

where:

TA = substation and transmission loan amount

Principal Portion

$$TC_n = TB \times (1 + i)^{-(1+N-n)} = \text{[redacted]} \times (1 + \text{[redacted]})^{-(1+32-1)} \approx \text{[redacted]}$$

6. Substation and Transmission Operations and Maintenance per Year

$$STY = \text{[redacted]} \times TA = \text{[redacted]}$$

where:

STY = substation and transmission operations and maintenance per year

[redacted] = percentage constant

7. Total Fixed Cost per Year

$$TFC_n = I_n + D + FY_n + ST_n + STY$$

$$TFC_1 = \text{[redacted]}$$

where:

TFC = total fixed cost per year

8. Total Fixed Cost per Kilowatt per Month

$$FC_n = \frac{TFC_n}{(MW \times 1000) \times 12}$$

$$FC_1 = \frac{\text{[redacted]}}{\text{[redacted]}} \approx \text{[redacted]}$$

where:

FC = total fixed cost per kilowatt per month

1000 = factor to convert capacity amount into kilowatts

12 = number of months in one year

9. Energy per Year

$$E_n = \text{[redacted]} \times CF \times MW = \text{[redacted]}$$

where:

E = energy per year (Megawatt hours)

CF = capacity factor

MW = capacity amount (Megawatts)

8760 = number of hours in one year

10. Variable Operations and Maintenance Cost Escalation

$$VOM_n = \text{[redacted]} \times (1 + e)^{(y-2004)}$$

$$VOM_1 = \text{[redacted]} \times (1 + \text{[redacted]})^{(2008-2004)} \approx \text{[redacted]}$$

where:

VOM = cost of variable operations and maintenance (Dollars per Megawatt hour)

[redacted] = variable operations and maintenance cost in year 2004 per EKPC proposal (Dollars per Megawatt hour)

11. Variable Operations and Maintenance per Year

$$VY_n = E_n \times VOM_n$$

$$VY_1 = \text{[REDACTED]}$$

where:

VY = variable operations and maintenance per year

12. Fuel Price

$$FP_n$$

where:

FP = fuel price per EKPC proposal (Dollars per million British Thermal Units)

13. Fuel Expense Calculation per Year

$$FE_n = FP_n \times HR \times E_n$$

$$FE_1 = \text{[REDACTED]}$$

where:

FE = fuel expense per year

HR = heat rate (million British Thermal Units per Megawatt hour)

14. Total Variable Cost per Year

$$TVC_n = VY_n + FE_n$$

$$TVC_1 = \text{[REDACTED]}$$

15. Total Variable Cost per Megawatt Hour

$$VC_n = \frac{TVC_n}{E_n}$$

$$VC_1 = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} = \text{[REDACTED]}$$

where:

VC = total variable cost per megawatt hour

16. Total Cost per Year

$$TC_n = TFC_n + TVC_n$$

$$TC_1 = \text{[REDACTED]}$$

where:

TC = total cost per year

17. Net Present Value of Total Cost per Year

$$NPV_n = \frac{TC_n}{(1 + DR)^{(Y-2004)}}$$

$$NPV_1 = \frac{\text{[REDACTED]}}{(1 + \text{[REDACTED]})^{(2008-2004)}} \approx \text{[REDACTED]}$$

where:

NPV = net present value of total cost per year

DR = discount rate

18. Net Present Value Cost per Megawatt Hour

$$NPVC_n = \frac{NPV_n}{E_n}$$

$$NPVC_1 = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} \approx \text{[REDACTED]}$$

where:

NPVC = nominal cost per megawatt hour

19. Cumulative Net Present Value of Total Cost

$$CTC_n = \sum_1^n NPV_n$$

$$CTC_2 = \sum_1^2 NPV_n = \text{[REDACTED]}$$

where:

CTC = cumulative net present value of total cost

20. Cumulative Megawatt hours

$$CMWh_n = \sum_1^n E_n$$

$$CMWh_2 = \sum_1^2 E_n = \text{[REDACTED]}$$

where:

CMWh = cumulative megawatt hours

21. Cumulative Net Present Value Cost per Megawatt Hour

$$CC_n = \frac{CTC_n}{CMWh_n}$$

$$CC_{32} = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} = \text{[REDACTED]}$$

where:

CC = cumulative cost per megawatt hour

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2004-00423

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED

FEBRUARY 25, 2005

REQUEST NO. 1 (b)

RESPONDING PERSON: Lynne Travis

Request No. 1 (b):

Provide a side-by-side comparison, for each year of the 32-year study period, of the PVRR revenue requirements and the cost per MWh for both East Kentucky Power's self-build Spurlock 4 proposal and the bid submitted by EnviroPower. Provide all supporting calculations.

Response No. 1 (b):

A side-by-side comparison of the Present Value Revenue Requirements (PVRR) and the cost per MWh for both the EKPC Spurlock 4 proposal and the EnviroPower proposal is included as Attachment Q1b.1. The annual values for EKPC are a result of the evaluation of the EKPC Spurlock 4 proposal, as outlined in the response to Question 1a. These values and the supporting calculations are found in the EKPC Spurlock 4 spreadsheet analysis, Attachment Q1a.1.

The evaluation of the EnviroPower proposal is based on information provided in the bid that EnviroPower submitted in response to the RFP. EnerVision reviewed the pricing details and included the following quoted costs into the analysis:

- Capacity Costs: [REDACTED] \$/kW/Month in 2008 and escalating to [REDACTED] \$/kW/Month in 2037 - Actual annual capacity charges for the remaining years are stated in the EnviroPower proposal, page 5 of 24: *TABLE OF BASELOAD POWER PRICES*. Based on this table of prices, the average

annual escalation rate for the capacity charges over the 30 year period is approximately [REDACTED] %.

- Energy Costs: [REDACTED] \$/MWh in 2008 and escalating to [REDACTED] \$/MWh in 2037 – Actual annual energy charges for the remaining years are stated in the EnviroPower proposal, page 5 of 24: *TABLE OF BASELOAD POWER PRICES*. Based on this table of prices, the average annual escalation rate for the energy charges over the 30 year period is approximately [REDACTED] %.

(Fixed and variable O&M costs were embedded in the Capacity and Energy Costs of EnviroPower's proposal and not independently specified.)

In addition to the above quoted costs, EnerVision reviewed the EnviroPower proposal to determine if there were additional costs that should be included in the analysis that EnviroPower had not identified as a cost component of either the capacity charge or the energy charge. An estimate for the following cost components was developed and included in the analysis:

- Environmental Impact Statement (EIS): \$2,000,000 in 2008\$ financed over a 32 year period based on a [REDACTED] % interest rate. Based on RUS regulations, it is EnerVision's and EKPC's belief that RUS will require an EIS to be completed for the EnviroPower site. From EnviroPower's letter dated 8/13/04, they respond to the EIS question stating: "*As described in the EnviroPower proposal, KMP has successfully completed all existing environmental review and certification requirements for its construction. To the extent further RUS environmental review is required, EnviroPower is confident that existing completed work will provide an exceptional database for such review.*" However, EnviroPower did not state that the cost to complete the EIS is included in their capacity charge provided in the proposal. Therefore, the cost to complete the EIS has been included in the analysis.
- Transmission Investment: \$[REDACTED] in 2008\$ financed over 32 years based on a [REDACTED] % interest rate. The EnviroPower proposal on page 13 of 24 states that some additional transmission costs would be "*reimbursed to KMP through transmission service credits structured through the PPA*". Therefore, this estimate of transmission costs was included in the analysis.
- Transmission O&M: 5% of the Transmission investment
- Synchronous Condensers: \$[REDACTED] in 2008\$ financed over a 32 year period based on a [REDACTED] % interest rate. The synchronous condensers are needed to provide VAR and voltage support throughout the central region

of EKPC's territory which the EnviroPower project could not provide. The cost was based on an estimate provided by an outside vendor.

- Availability Bonus: Originally the annual energy was calculated based on an 80% capacity factor. An 88% capacity factor was introduced when EnviroPower provided a draft Purchase Power Agreement in late September 2004 that included a seasonal availability bonus. The seasonal availability bonus was calculated based on the formulas in the draft contract and included in the analysis.

A spreadsheet was developed to evaluate the EnviroPower proposal and is included as Attachment Q1b.2. The supporting calculations for each line item of this spreadsheet are included as Attachment Q1b.3. The spreadsheet analysis included modeling both the total capacity costs (fixed costs) and total energy costs (variable costs) associated with the EnviroPower proposal.

The capacity costs included: the capacity charges as outlined in the EnviroPower proposal, EIS expense, transmission costs, synchronous condensers and the availability bonus. The energy costs included the contracted energy charge (\$/MWh), as outlined in the proposal, was applied to the annual energy (MWh) based on an 88% capacity factor.

Just as with the EKPC Spurlock 4 proposal, the individual cost components for the EnviroPower proposal were totaled on an annual basis, and each year of costs were present-valued to 2004\$. The present value cost for each of the 32 years was summed to obtain the total cost of each proposal in 2004\$. This total cost was then divided by the total energy (MWh) produced over the 30 years of the EnviroPower proposal to obtain the average \$/MWh cost of the proposal.

Q1b.1

Response to Kentucky PSC Question 1b from 2_22_05 Request:

**EKPC Spurlock 4 versus EnviroPower
Annual PVRR (Present Value Revenue Requirements) and \$/MWh**

3% Discount Rate

Year	Annual PVRR (2004\$)		Annual PVRR (\$/MWh)		Cumulative PVRR (\$/MWh)	
	Spur 4 (1)	Enviro (4)	Spur 4 (2)	Enviro (5)	Spur 4 (3)	Enviro (6)
2008						
2009						
2010						
2011						
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						
2026						
2027						
2028						
2029						
2030						
2031						
2032						
2033						
2034						
2035						
2036						
2037						
2038						
2039						
2040						
Total						

EKPC Spurlock 4 Calculations:

Note: Refer to the spreadsheet (Q1a.1) provided in response to PSC Question 1a dated February 25, 2005 for supporting calculations for the EKPC Spurlock 4 Proposal.

- (1) Spurlock 4 Annual PVRR - line 17 of Q1a.1 - Spurlock Total Cost in each year present valued to 2004 \$ by 3% discount rate
- (2) Spurlock 4 Annual PVRR in \$/MWh - line 18 of Q1a.1 - Spurlock Total Cost in each year present valued to 2004\$ by 3% discount rate and divided by the MWh of Spurlock 4 in each year
- (3) Spurlock 4 Cumulative PVRR in \$/MWh - line 21 of Q1a.1 - Spurlock cumulative Total Cost in each year present valued to 2004\$ by 3% discount rate and divided by the cumulative MWh of Spurlock 4 in each year

EnviroPower Calculations:

Note: Refer to the spreadsheet (Q1b.2) provided in response to PSC Question 1b dated February 25, 2005 for supporting calculations for the EnviroPower Proposal.

- EnviroPower Annual PVRR - line 13 of Q1b.2 - EnviroPower Total Cost in each year present valued to 2004 \$ by 3% discount rate
- EnviroPower Annual PVRR in \$/MWh - line 14 of Q1b.2 - EnviroPower Total Cost in each year present valued to 2004\$ by 3% discount rate and divided by the MWh of EnviroPower in each year

Q1b.2		2008	2009	2010	2011	2012	2013	2014	2015	2016
Response to Kentucky PSC Question 1b from 2_25_05 Request:										
#28 EnviroPower, LLC & Khanjee Holdings, Inc.										
Amount:	267 MW									
Capacity Factor:										
Discount Rate:										
Interest Rate:										
EIS and Transmission Synchronizing	(2004\$)									
Finance Term	years									
Period n	1	2	3	4	5	6	7	8	9	
Period m	1	2	3	4	5	6	7	8	9	
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Line #	1	2	3	4	5	6	7	8	9	10
1	6 Month Peak Season Bonus									
2	EIS and Transmission carrying cost									
3	Synchronizing carrying cost									
4	Transmission O&M									
5	Capacity Charge (\$/KW/Month)									
6	Capacity Charge									
7	Total Fixed Costs									
8	Total Fixed Cost (\$/KW/Month)									
9	Energy (MWh)									
10	Energy Charge (\$/MWh)									
11	Energy Charge									
12	Total Cost									
13	Total Cost (\$) NPV									
14	NPV \$/MWh									
15	Cumulative Total Cost (\$) NPV									
16	Cumulative MWh									
17	Cumulative \$/MWh									
	PSAT =									
	APSA =									
	PSBC =									
	PSBF =									
	PSB =									

Q1b.2		2032	2033	2034	2035	2036	2037	2038
Response to Kentucky PSC Question								
#28	EnviroPower, LLC & Khanjee Hol							
	Amount:							
	Capacity Factor:							
	Discount Rate:							
	Interest Rate							
	EIS and Transmission							
	SynchCond							
	Finance Term							
	Period in	25	26	27	28	29	30	31
	Period m	24	25	26	27	28	29	30
	Year	2032	2033	2034	2035	2036	2037	2038
Line #								
1	6 Month Peak Season Bonus							
2	EIS and Transmission carrying cost							
3	SynchCond carrying cost							
4	Transmission O&M							
5	Capacity Charge (\$/KW/Month)							
6	Capacity Charge							
7	Total Fixed Costs							
8	Total Fixed Cost (\$/KW/Month)							
9	Energy (MWh)							
10	Energy Charge (\$/MWh)							
11	Energy Charge							
12	Total Cost							
13	Total Cost (\$) NPV							
14	NPV \$/MWh							
15	Cumulative Total Cost (\$) NPV							
16	Cumulative MWh							
17	Cumulative \$/MWh							
	PSAT =							
	APSA =							
	PSBC =							
	PSBF =							
	PSB =							

Q1b.2					
Response to Kentucky PSC Question					
	#28 EnviroPower, LLC & Khanjee Hol				
	Amount:				
	Capacity Factor:				
	Discount Rate:				
	Interest Rate				
	EIS and Transmission				
	SynchCond				
	Finance Term				
	Period n	32			33
	Period m	31			32
	Year	2039		2040	Total
1	6 Month Peak Season Bonus				
2	EIS and Transmission carrying cost				
3	SynchCond carrying cost				
4	Transmission O&M				
5	Capacity Charge (\$/KW/Month)				
6	Capacity Charge				
7	Total Fixed Costs				
8	Total Fixed Cost (\$/KW/Month)				
9	Energy (MWh)				
10	Energy Charge (\$/MWh)				
11	Energy Charge				
12	Total Cost				
13	Total Cost (\$) NPV				
14	NPV \$/MWh				
15	Cumulative Total Cost (\$) NPV				
16	Cumulative MWh				
17	Cumulative \$/MWh				
	PSAT =				
	APSA =				
	PSBC =				
	PSBF =				
	PSB =				

Q1b.3

**Supporting Calculations for EnviroPower Evaluation
In Response to Kentucky PSC Question 1b from 2_25_05 Request**

1. Peak Season Availability Bonus

$$PSB_n = PSBC \times PSBF \times CRR_n \times 1000 \times 6$$

$$PSB_1 = \text{[REDACTED]}$$

where:

PSB = peak season bonus

PSBC = peak season bonus capacity

PSBF = peak season bonus factor (= 1.5 per EnviroPower proposal)

CRR = capacity reservation rate (per EnviroPower proposal)

n = period under consideration (period 1 is 2008)

1000 = factor to convert PSBC into kilowatts

6 = number of months in peak season

Peak Season Bonus Capacity

$$PSBC = APSA - PSAT$$

$$PSBC = \text{[REDACTED]}$$

where:

APSA = actual peak season availability

PSAT = peak season availability target

Actual Peak Season Availability

$$APSA = 0.97 \times CC$$

$$APSA = \text{[REDACTED]}$$

where:

CC = contract capacity (= 267 MW per EnviroPower proposal)

0.97 = factor corresponding to a 97% availability factor

Peak Season Availability Target

$$PSAT = CC \times 0.93$$

$$PSAT = \text{[REDACTED]}$$

where:

0.93 = factor corresponding to a 93% availability factor (per EnviroPower proposal)

2. EIS and Transmission Carrying Cost

$$ET_n = ETB - ETC_n$$

$$ET_1 = \text{[REDACTED]}$$

where:

ET = EIS and transmission interest payment

ETB = EIS and transmission loan payment

ETC = EIS and transmission principal portion

EIS and Transmission Total Loan Payment

$$ETB = \frac{(i \times ETA)}{1 - (1+i)^{-N}} = \frac{\text{[REDACTED]}}{1 - (1 + \text{[REDACTED]})^{-32}} = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} \approx \text{[REDACTED]}$$

where:

ETA = EIS and transmission loan amount

Principal Portion

$$ETC_n = ETB \times (1+i)^{-(1+N-n)}$$

$$ETC_1 = \text{[REDACTED]} (1 + \text{[REDACTED]})^{-(1+32-1)} \approx \text{[REDACTED]}$$

3. Synchronous Condenser Carrying Cost

$$SC_m = SCB - SCC_m$$

$$SC_1 = \text{[REDACTED]}$$

where:

SC = synchronous condenser interest payment

SCB = synchronous condenser loan payment

SCC = synchronous condenser principal portion

m = period under consideration (period 1 is 2009)

Synchronous Condenser Total Loan Payment

$$SCB = \frac{(i \times SCA)}{1 - (1+i)^{-N}} = \frac{\text{[REDACTED]}}{1 - (1 + \text{[REDACTED]})^{-32}} = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} \approx \text{[REDACTED]}$$

where:

SCA = synchronous condenser loan amount

Principal Portion

$$SCC_m = SCB \times (1+i)^{-(1+N-m)}$$

$$SCC_1 = \text{[REDACTED]} (1 + \text{[REDACTED]})^{-(1+32-1)} \approx \text{[REDACTED]}$$

4. Transmission Operations and Maintenance per Year

$$TY = \text{[redacted]} \times TA = \text{[redacted]}$$

where:

TY = transmission operations and maintenance per year

[redacted] = percentage constant

5. Capacity Reservation Rate

$$CRR_n$$

where:

CRR = capacity reservation rate per EnviroPower proposal (dollars per kilowatt per month)

6. Capacity Expense per Year

$$CE_n = CRR_n \times CC \times 1000 \times 12$$

$$CE_1 = \text{[redacted]}$$

where:

1000 = factor used to convert CC into kilowatts

12 = number of months in one year

7. Total Fixed Cost per Year

$$TFC_{n,m} = PSB_n + ET_n + SC_m + TY + CE_n$$

$$TFC_{n=2,m=1} = \text{[redacted]}$$

8. Total Fixed Cost per Kilowatt per Month

$$FC_{n,m} = \frac{TFC_{n,m}}{(CC \times 1000) \times 12}$$

$$FC_{n=2,m=1} = \frac{\text{[redacted]}}{\text{[redacted]}} \approx \text{[redacted]}$$

where:

FC = total fixed cost per kilowatt per month

1000 = factor to convert capacity amount into kilowatts

12 = number of months in one year

9. Energy per Year

$$E_n = 8760 \times CF \times CC = \text{[redacted]}$$

where:

E = energy per year (Megawatt hours)

CF = capacity factor
8760 = number of hours in one year

10. Energy Charge

$$EC_n$$

where:

EC = energy charge per EnviroPower proposal (dollars per megawatt hour)

11. Energy Expense per Year

$$EE_n = EC_n \times E_n$$

$$EE_1 = \text{[REDACTED]}$$

12. Total Cost per Year

$$TC_{n,m} = TFC_{n,m} + EE_n$$

$$TC_{n=2,m=1} = \text{[REDACTED]}$$

13. Net Present Value of Total Cost per Year

$$NPV_{n,m} = \frac{TC_{n,m}}{(1 + DR)^{(Y-2004)}}$$

$$NPV_{n=2,m=1} = \frac{\text{[REDACTED]}}{(1 + \text{[REDACTED]})^{(2009-2004)}} \approx \text{[REDACTED]}$$

where:

NPV = net present value of total cost per year

DR = discount rate

14. Net Present Value Cost per Megawatt Hour

$$NPVC_{n,m} = \frac{NPV_{n,m}}{E_n}$$

$$NPVC_{n=2,m=1} = \frac{\text{[REDACTED]}}{\text{[REDACTED]}} \approx \text{[REDACTED]}$$

where:

NPVC = nominal cost per megawatt hour

15. Cumulative Net Present Value of Total Cost

$$CTC_{n,m} = \sum_{1}^n \sum_{0}^m NPV_{n,m}$$

$$CTC_{n=2,m=1} = \sum_{1}^2 \sum_{0}^1 NPV_{n,m} =$$

where:

CTC = cumulative net present value of total cost

16. Cumulative Megawatt hours

$$CMWh_n = \sum_{1}^n E_n$$

$$CMWh_2 = \sum_{1}^2 E_n =$$

where:

Cow = cumulative megawatt hours

17. Cumulative Net Present Value Cost per Megawatt Hour

$$CC_{n,m} = \frac{CTC_{n,m}}{CMWh_n}$$

$$CC_{n=33,m=32} = \frac{}{=} =$$

where:

CC = cumulative cost per megawatt hour

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2004-00423

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED

FEBRUARY 25, 2005

REQUEST NO. 2

RESPONDING PERSON: Lynne Travis

Request No. 2:

Provide East Kentucky Power's estimated cost of the Spurlock 4 proposal expressed in \$/KW/Month and \$/MWH for each year 2008 through 2037. Explain in detail how it was derived and provide all supporting calculations.

Response No. 2:

The requested cost schedule is attached hereto as Attachment Q 2. The process for deriving these costs is described in the response to Request No. 1 (a).

Q2

Response to Kentucky PSC Question 2 from 2_22_05 Request:

EKPC Spurlock 4 Evaluation

Capacity Costs (\$/KW/Month) and Energy Costs (\$/MWh)

	Spurlock 4 Capacity Costs (1)	Spurlock 4 Energy Costs (2)
Year	\$/KW/Month	\$/MWh
2008		
2009		
2010		
2011		
2012		
2013		
2014		
2015		
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		
2032		
2033		
2034		
2035		
2036		
2037		
2038		
2039		

EKPC Spurlock 4 Calculations:

Note: Refer to the spreadsheet (Q1a.1) provided in response to PSC Question 1a dated February 25, 2005 for supporting calculations for the EKPC Spurlock 4 Proposal.

(1) Spurlock 4 Annual Capacity Costs (\$/KW/Month) - line 8 of Q1a.1 - Spurlock Total Fixed Cost in each year divided by 278,000 KW divided by 12 months per year

(2) Spurlock 4 Annual Energy Costs (\$/MWh) - line 15 of Q1a.1 - Spurlock Total Variable Costs in each year divided by energy in each year